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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/611,513	07/01/2003	Thomas P. Hager	25186E	2168
30623	7590	12/29/2005	EXAMINER	
MINTZ, LEVIN, COHN, FERRIS, GLOVSKY AND POPEO, P.C. ONE FINANCIAL CENTER BOSTON, MA 02111			LEE, JINHEE J	
			ART UNIT	PAPER NUMBER
			2831	

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

10/611,513

Applicant(s)

HAGER ET AL.

Examiner

Jinhee J. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☒ Other: *Examiner Approved Drawing*.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Girgis (US006004676A) in view of Butterbach et al. (US006677394B1).

Re claim 1, Girgis substantially discloses a flexible reinforcement member comprising: a plurality of high modulus fibers (18 for example); a primary saturant (see column 2 lines 14-16 for example) coupled to said plurality of high modulus fibers said primary saturant having a melting point below approximately 300 degrees Celsius and a melt viscosity of less than approximately 1000 centipoise (see column 5 lines 14-22 and column 6 lines 37-28 for example). Girgis does not explicitly disclose higher molecular

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weight, water-swellaable polymer topcoat coupled to said primary saturant. However, Butterbach et al. teaches of a higher molecular weight, water-swellaable polymer topcoat (see abstract and column 3 lines 60-62 for example). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the higher molecular weight, water-swellaable polymer topcoat of Butterbach et al. and couple to said primary saturant of Girgis in order to provide a water blocking composite.

Re claim 2, note that Girgis substantially discloses a flexible reinforcement member, wherein said primary saturant has a melting point below between about 100 to about 150 degrees Celsius (see materials disclosed for example) and a melt viscosity of less than 500 centipoise (see column 6 lines 37-38 for example).

Re claim 3, note that Butterbach et al. teaches that the plurality of sized high modulus fibers are selected from the group consisting of a plurality of sized or unsized aramid fibers and a plurality of sized or unsized poly (p -phenylene-z, 6-benzobisoxazole) (PBO) fibers and a plurality of sized or unsized carbon fibers and a plurality of sized or unsized high silica glass and sized or unsized high tenacity, linearized polyethylene fiber (see column 12 lines 25-29).

Re claim 4, note that Girgis discloses said plurality of high modulus fibers comprising a plurality of glass fiber strands (see abstract and column 2 lines 25-29).

Re claim 5, note that Girgis discloses wherein said plurality of glass fiber strands comprises at least one glass fiber bundle, each of said at least one glass fiber bundle comprising a plurality of glass fiber filaments (see column 12 line 60 for example).

Re claim 6, note that Girgis discloses wherein said plurality of glass fiber strands comprises a plurality of glass fiber filaments and at least one glass fiber bundle, each of said at least one glass fiber bundle comprising a plurality of glass fiber filaments (see column 12 line 60 for example).

Re claim 7, note that Girgis discloses said primary saturant comprising a low molecular weight mineral wax (see column 19, table 6 for example).

Re claim 8, note that Girgis discloses said primary saturant that is a low molecular weight microcrystalline wax (see column 19, table 6 for example).

Re claim 9, note that Girgis discloses, wherein said primary saturant comprises a blend of a low molecular weight microcrystalline wax and a styrene butadiene rubber, wherein said blend is between approximately 0.1 and 99.9 percent by weight of said low molecular weight microcrystalline wax and between approximately 0.1 and 99.9 percent by weight of said styrene butadiene rubber (see column 19, table 6 for example).

Re claim 10, the member of Girgis modified by Butterbach et al. substantially discloses the claimed invention except, wherein said blend comprises a 50/50 by weight blend of said low molecular weight microcrystalline wax and said styrene butadiene rubber. It would have been an obvious matter of design choice to use the blend that comprises a 50/50 by weight blend of said low molecular weight microcrystalline wax and said styrene butadiene rubber in order to provide the reinforcement matrix, since such a modification would have involved a mere change in the dimensions or proportion of a component. A change in dimensions or proportion is generally recognized as being

within the level of ordinary skill in the art. *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984).

Re claim 11, note that Girgis discloses, wherein said plurality of glass fiber strands comprises a plurality of sized glass fiber strands selected from the group consisting of a plurality of sized or unsized E-type glass fiber strands and a plurality of sized or unsized ECR-type glass fibers (see column 12 lines 25-29).

Re claim 12, note that Girgis discloses wherein said primary saturant comprises approximately 0.1 and 35 percent of the total weight of said flexible reinforcement member and wherein said high molecular weight water-swellaable polymer topcoat comprises between approximately 0.1 and 35 percent of the total weight of said flexible reinforcement member (see column 19 lines 54-56 for example)

Re claim 13, the device of Girgis modified by Butterbach et al. discloses the claimed invention except wherein said primary saturant comprises approximately 5 and 20 percent of the total weight of said flexible reinforcement member and wherein said high molecular weight water-swellaable polymer topcoat comprises between approximately 5 and 20 percent of the total weight of said flexible reinforcement member. It would have been an obvious matter of design choice to use said primary saturant that comprises approximately 5 and 20 percent of the total weight of said flexible reinforcement member and wherein said high molecular weight water-swellaable polymer topcoat comprises between approximately 5 and 20 percent of the total weight of said flexible reinforcement member in order to provide optimum proportions, since such a modification would have involved a mere change in the dimensions or proportion

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of a component. A change in dimensions or proportion is generally recognized as being within the level of ordinary skill in the art. *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984).

Re claim 14, the device of Girgis modified by Butterbach et al. discloses the claimed invention except wherein said primary saturant comprises approximately 10 and 15 percent of the total weight of said flexible reinforcement member and wherein said high molecular weight water-swellaable polymer topcoat comprises between approximately 10 and 15 percent of the total weight of said flexible reinforcement member. It would have been an obvious matter of design choice to use said primary saturant that comprises approximately 10 and 15 percent of the total weight of said flexible reinforcement member and wherein said high molecular weight water-swellaable polymer topcoat comprises between approximately 10 and 15 percent of the total weight of said flexible reinforcement member in order to provide optimum proportions, since such a modification would have involved a mere change in the dimensions or proportion of a component. A change in dimensions or proportion is generally recognized as being within the level of ordinary skill in the art. *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984).

Re claim 15, note that Butterbach et al. teaches, wherein said high molecular weight water-swellaable polymer topcoat is selected from the group consisting of ethylene vinyl acetate (EVA) polymers, block copolymers of polybutylene terephthalate, copolymers of long chain polyether glycols, thermoplastic elastomers, olefins, urethanes, polypropylene, polyethylene, polyurethane, low

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molecular weight mineral wax, polyacrylamides and blends thereof (see column 2 lines 56-58 for example).

Re claim 16, note that Girgis discloses wherein the glass transition temperature (T_g) of said flexible reinforcement is greater than about 40.degree C. (see column 8 lines 5-10).

Re claim 17, note that Butterbach et al. teaches, wherein said high molecular weight water-swellaable polymer topcoat comprises an ethylene vinyl acetate polymer topcoat (see column 2 lines 55-58 for example).

Re claim 18, note that Butterbach et al. teaches, wherein said high molecular weight water-swellaable topcoat is a blend of water-swellaable polymer topcoat and non water-swellaable topcoat (see abstract).

Re claim 19, the device of Girgis modified by Butterbach et al. discloses the claimed invention except wherein the water absorbency for the reinforcement member is between about 111 to about 142 percent by weight. It would have been an obvious matter of design choice to use the water absorbency for the reinforcement member that is between about 111 to about 142 percent by weight in order to provide optimum proportions, since such a modification would have involved a mere change in the dimensions or proportion of a component. A change in dimensions or proportion is generally recognized as being within the level of ordinary skill in the art. *In Gardner v. TEC Systems, Inc.*, 725 F .2d 1338, 220 USPQ 777 (Fed. Cir. 1984).

Response to Arguments

4. Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

Note that the examiner cites a different patent by Girgis which teaches of reinforcement member in cables.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jinhee J. Lee whose telephone number is 571-272-1977. The examiner can normally be reached on M, T, Th and F at 6:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean A. Reichard can be reached on 571-272-2800 ext. 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jinhee J Lee
Patent Examiner
Art Unit 2831

A handwritten signature in black ink, appearing to read 'Jinhee J. Lee', is written over the printed name and title.

Replacement Drawing

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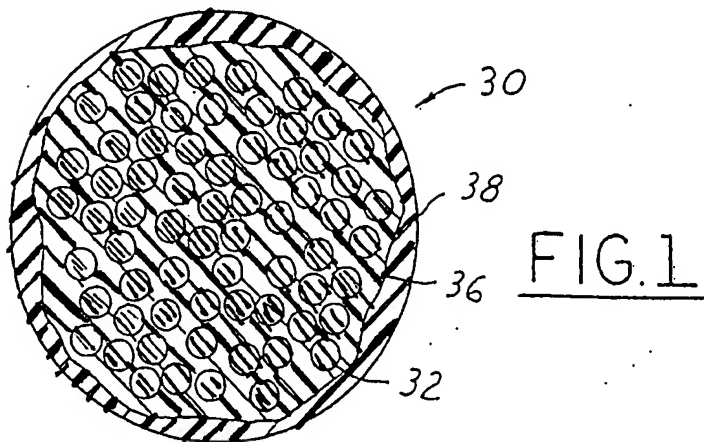
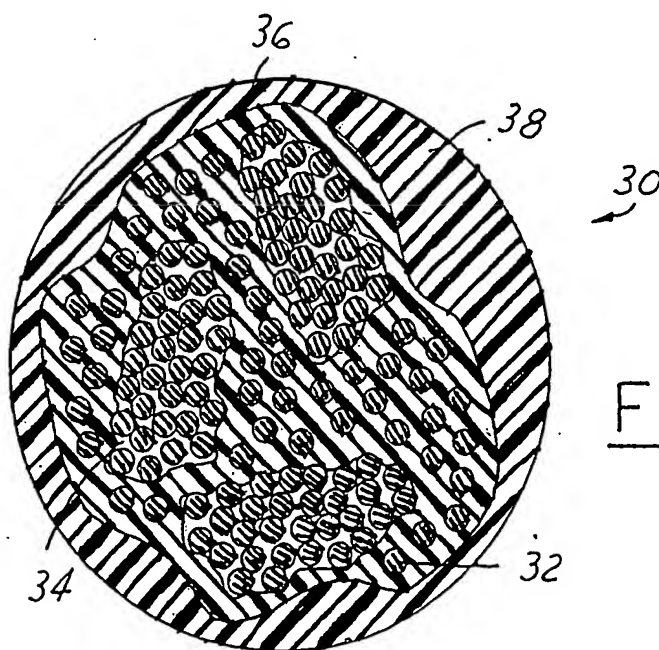
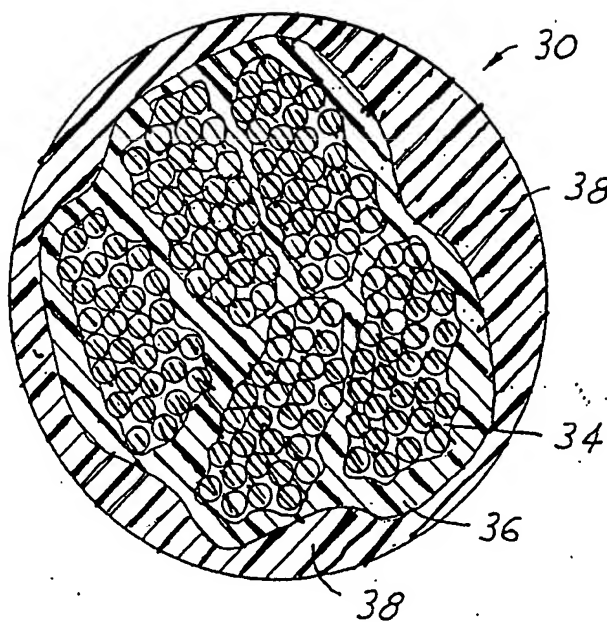


FIG. 2



Examiner Accepted 2/1/05

Replacement Drawing

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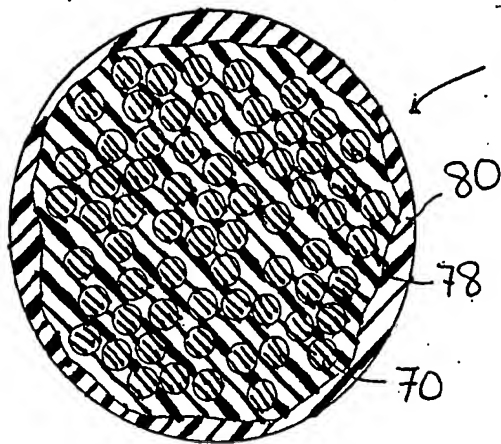


FIG. 5

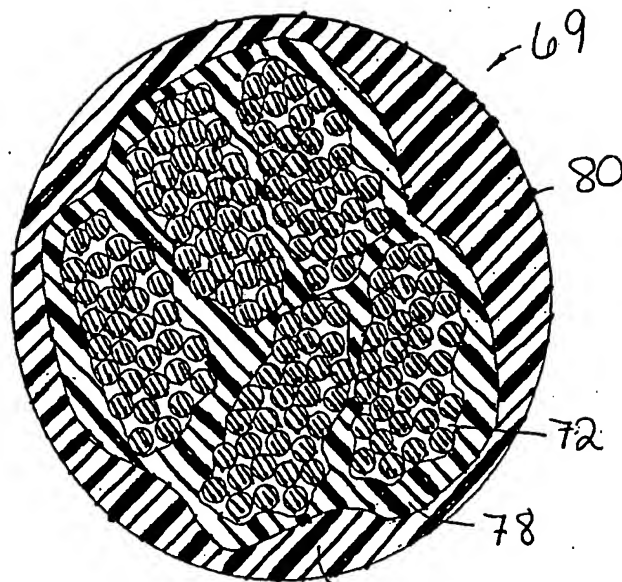


FIG. 6

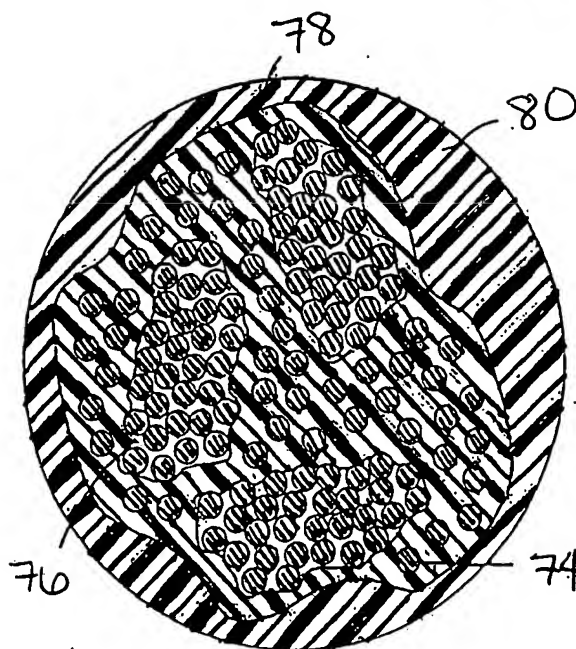


FIG. 7

Replacement Drawing

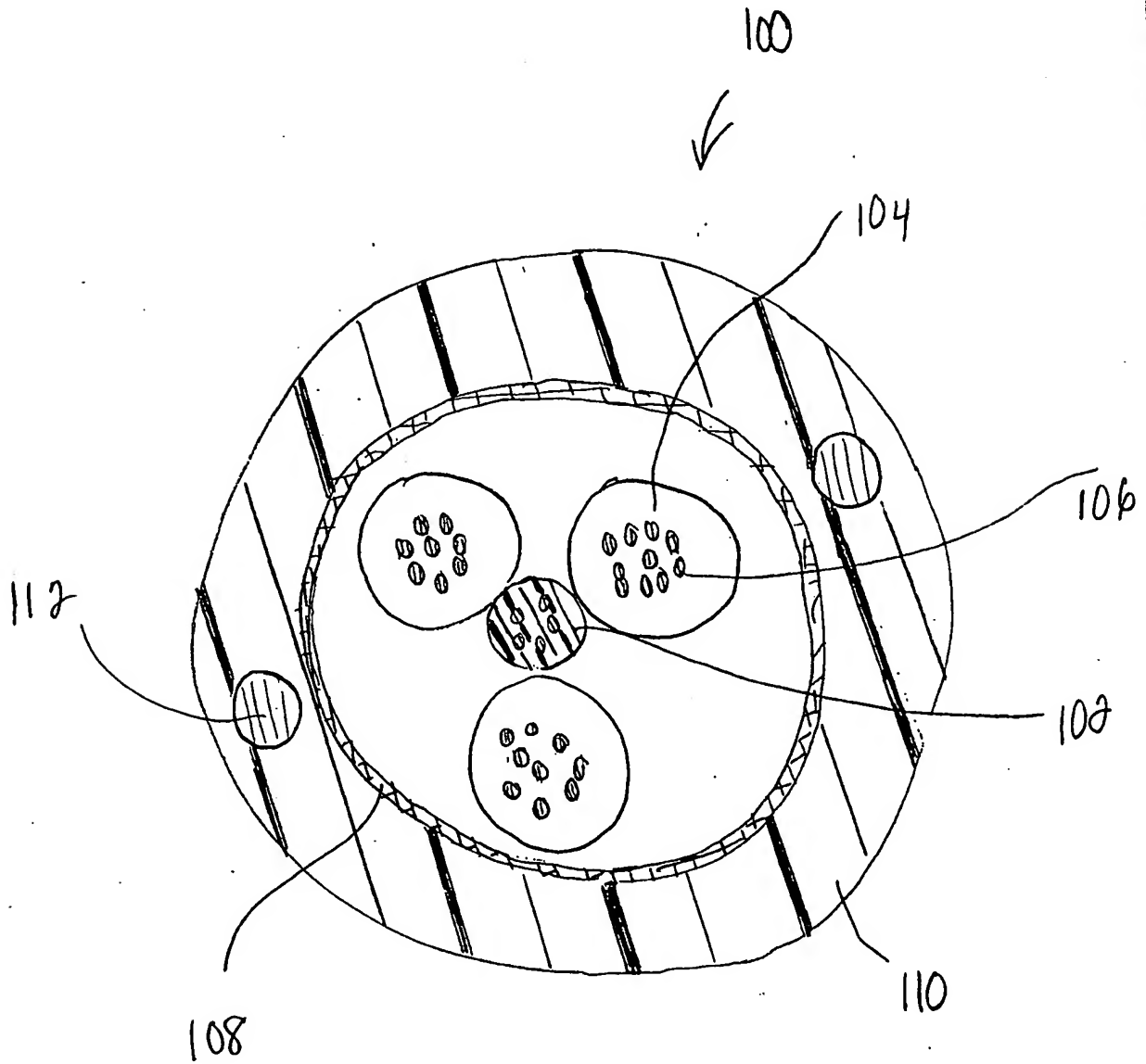


Fig - 10